



UN0601 - Control, Instrumentation and Electrical Systems in CANDU Nuclear Power Plants

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Objectives of the course

OBJECTIVE

- To provide students with essential knowledge of control, instrumentation, and electrical measurement systems in power plants.

GOALS

- At the end of the course, the student should be able to perform simple analysis of control systems, design feedback controllers, such as PID controllers.
- The student will also be able to understand basic instrumentations and measurement techniques used in a nuclear power plant.

Natural division of the course materials

- Basic Control System Theories
 - modeling, classical control, time domain, frequency domain, stability
- Measurements and Instrumentation
 - flow, temperature, pressure, etc
- Instrumentation and control of Nuclear Power Plants
 - plant specific systems.



Lecture Time and Locations



Dates:

October 13, 14

November 11, 24, 25

December 8, 20 (Afternoon for test)

Lecture times: (Four lectures per day)

Lecture 1: 9:00AM 10:15AM

Lecture 2: 10:45AM 12:00Noon

Lecture 3: 1:00PM 2:15PM

Lecture 4: 2:45PM 4:00PM

Locations: Durham College, Skills Training Centre, Room 1-8



Course materials and presentation slides



Course materials and slides of presentation will be posted onto the UNENE web site as soon as they become available.

The first set of materials will be posted after the first day of the class.



Course evaluation



There are three components in the evaluation of the course:

Project 30%

Home Assignments 30%

Final exam 40%



Projects



The student has option to propose their own topics of project. However, a valid project should have the following essential components:

1. Clearly defined scope and objectives
2. Related to the materials covered in this course
3. Involved some sort of calculations

Each student should hand in a typed project report on the last of the class.



Home Assignments



There will be three home assignments throughout the course. The details of these assignments will be provided as the course progresses.

The students are required to independently complete the assignments and hand them in on time.



Teaching styles



- The course to be conducted in a relaxed environment
- Student participation is encouraged
- No reasonable requests are ignored
- Student feedbacks are appreciated (in particular, in the early part of the course)
- The 'true' objective is to have fun and to learn something along the way



Contacting the instructor



The best way to contact the instructor is by e-mail at:

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